

CLAIMS

- 5 1. A method for determining the presence or absence of an antibiotic in a fluid comprising:
- (a) contacting a fluid sample with a test medium comprising a test microorganism and at least one indicator;
 - 10 (b) incubating the test microorganism with the fluid under conditions whereby growth of the test microorganism occurs if no antibiotic is present in the fluid sample; and
 - (c) detecting any growth or inhibition of growth of the test microorganism as appropriate by means of an indicator,
- 15 characterized in that the ratio of the volume of said fluid sample to the volume of test medium exceeds 0.68:1.
2. A method according to claim 1, wherein the antibiotic to be determined is a β -lactam antibiotic.
- 20 3. A method according to claim 1 or 2, wherein the test medium is a sol or a gel.
4. A method according to any one of claims 1 to 3, wherein the indicator is at least one pH-indicator and/or at least one redox-indicator.
- 25 5. A method according to any one of claims 1 to 4, wherein the test microorganism is a thermo-stable microorganism.
6. A method according to any one of claims 1 to 5, wherein in the fluid sample comprises a fluid obtainable from an animal or human body.
- 30 7. A method according to claim 6, wherein the fluid is milk.
8. A method according to any one of claims 1 to 7, wherein the conditions for growth of the test micro-organism comprise:

- (a) adding nutrients; and/or
- (b) incubating at an appropriate temperature; and/or
- (c) incubating for a sufficient period of time.

5 9. A method according to any one of claims 1 to 8, wherein the ratio of the volume of liquid sample to the volume of test medium exceeds 20:27 (0.74:1) (v/v), 25:27 (0.93:1) (v/v) or 2:1 (v/v).

10 10. A method according to any one of claims 1 to 9, wherein the volume of liquid sample is greater than the volume of test medium.

11. A kit suitable for determining the presence or absence of an antibiotic in a fluid comprising:

- 15 (a) at least one container partially filled with a test medium comprising a test micro-organism, at least one gelling agent and at least one indicator, and;
- (b) a device for adding fluid to the test medium, said device having a volume that exceeds a ratio of 2/3 (0.68:1) of the volume of the test medium.

20 12. A kit according to claim 11 further comprising nutrients suitable for allowing the microorganism to grow.

13. A kit according to claim 11 or 12, further comprising a thermostatic device, with the aid of which test samples can be kept at a pre-set temperature.

25 14. A kit according to any one of claims 11 to 13, further comprising a data carrier loaded with a computer program suitable for instructing a computer to analyze digital data obtained from a sample-reading device.

30 15. Use of a ratio of a volume of fluid sample to a volume of test medium between 2:3 (0.68:1) (v/v) and 10:1 (v/v) in an assay for the detection of an antibiotic.

16. Use of a ratio of a volume of fluid sample to a volume of test medium between 2:3 (0.68:1) (v/v) and 10:1 (v/v) to improve the sensitivity of a test microorganism to β -lactams.